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REMARKS

Claims 1-15 are pending in this application. The Examiner rejected Claims 1, 2, 5, and 7 under 35 U.S.C. 102(b) and rejected Claims 3, 4, 6, and 8-15 under 35 U.S.C. 103(a). Independent Claims 1 and 11 have been amended in the foregoing amendment.

Masetti and Amersfoort Do Not Show or Suggest
the Invention of Claims 1 and 11

The Examiner rejected Claim 1 under 35 U.S.C. 102(b) as anticipated by "Optical Fiber Buffer for High-Performance Broadband Switching," Masetti et al. ("Masetti"), and rejected Claim 11 under 103(a) as unpatentable over Masetti in view of U.S. Patent No. 5,748,811 to Amersfoort et al. ("Amersfoort"). Applicants traverse these rejections for the reasons discussed below.

Claim 1

The optical signal processing device of amended Claim 1 requires, among other elements, an optical gate configured to gate the optical signals outputted from the optical combiner or entered into the optical delay waveguide array, such that parts of the optical signals of the delayed plural sets are extracted during a single prescribed time-slot region. The claimed invention extracts a part of each of the delayed signals during the same time-slot region. See Figures 3 and 10 and page 7, line 9 to page 8, line 21, and page 13, line 32 to page 14, line 18 of the present specification. With this configuration, the invention of Claim 1 realizes the digital-to-analog conversion of the input optical signals in an optical region without converting the input optical signals into electric signals for the purpose of signal processing, making it possible to handle high speed optical signals by using a relatively slow electric circuit.

In contrast, Masetti describes an optical fiber buffer device in which optical gates are provided on the delay lines connected to the fiber splitter. The signals on the delay lines are respectively delayed and a part of each delayed signal is extracted by the optical gates.

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However, the optical gates are operated at different times, so that each optical gate is active during a different time period and only one optical gate is active at a time. As described at page 96 left column, lines 27-33, "(t)he gates are activated/de-activated at the packet rate synchronously with the optical packets (time-slotted operation), using a gating sequence generator which provides a pre-programmed activation/de-activation sequence of duration T (or a multiple of T), so that only one gate is in the on state at a time." Figure 8 of Masetti also illustrates that the gates operate at different times. The optical gates of Masetti teach away from the claimed invention since Masetti describes signal extraction over multiple time slots, whereas Claim 1 requires that the optical signals of the delayed plural sets are extracted during a single prescribed time-slot region. Accordingly, Claim 1 is not anticipated by Masetti and Claim 1 should be allowed.

Claim 11

As described above in relation to Claim 1, Masetti fails to describe that each of the delayed optical signals are extracted during a single prescribed time-slot region. Amersfoort describes an optical filter or router, which uses an optical cross-connect switch. Amersfoort does not describe optical gates that operate, as required by Claim 11. Amersfoort does not show or suggest any possible use of its optical cross-connect switch in the optical fiber buffer device of Masetti. Thus, there is no motivation to combine Masetti and Amersfoort.

Accordingly, Claim 11 would not have been obvious to one of ordinary skill in light of Masetti and Amersfoort at the time Applicants made the claimed invention. Thus, Claim 11 should also be allowed.

Claims 2-10 and 12-15

Claims 2-10 and 12-15 depend from independent Claims 1 and 11. The remarks made above in support of the patentability of the independent claims are equally applicable to distinguish the dependent claims from the cited references. Thus, Claims 2-10 and 12-15 should also be allowed.

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CONCLUSION

The foregoing is submitted as a complete response to the Office Action identified above. This application should now be in condition for allowance, and the Applicants solicit a notice to that effect. If there are any issues that can be addressed via telephone, the Examiner is asked to contact the undersigned at 404.685.6799.

Respectfully submitted,



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